

Title (en)

MULTI-LAYER CERAMIC SUBSTRATE, AND METHOD AND DEVICE FOR PRODUCING THE SAME

Title (de)

MEHRSCHECHTIGES KERAMISCHES SUBSTRAT UND VERFAHREN UND EINRICHTUNG ZU SEINER HERSTELLUNG

Title (fr)

SUBSTRAT CERAMIQUE MULTICOUCHES, PROCEDE ET DISPOSITIF DE PRODUCTION DUDIT SUBSTRAT

Publication

**EP 1471573 A1 20041027 (EN)**

Application

**EP 03734905 A 20030131**

Priority

- JP 0301019 W 20030131
- JP 2002025632 A 20020201

Abstract (en)

[origin: US2004089472A1] This invention provides a multilayer ceramic substrate which has a consistent quality, and which has with no swelling or collapse in the inner periphery of the cavity, wherein the bottom of the cavity is flat to enable stable packaging of the desired device at a high precision, and wherein L and C can be formed by the internal conductor at a high precision; and a method for producing a multilayer ceramic substrate and an apparatus therefor by which a multilayer ceramic substrate can be readily produced in a simple procedure by using an apparatus of simple structure. This invention has realized a multilayer ceramic substrate comprising a laminate constituted from laminated ceramic layers 1a to 1h and internal conductors 3 formed between the ceramic layers 1a to 1h, wherein the laminate has end surfaces on opposite ends of its thickness direction, and the laminate is formed with a cavity 2 which opens to at least one end surface of the laminate, and wherein the multilayer ceramic substrate is provided at least with a capacitor and/or an inductor constituted by the internal conductors 3; its production method; and an apparatus used in such production.

IPC 1-7

**H01L 23/12; H05K 3/46**

IPC 8 full level

**B28B 11/12** (2006.01); **B28B 11/00** (2006.01); **H01L 23/12** (2006.01); **H01L 23/13** (2006.01); **H01L 23/15** (2006.01); **H01L 23/498** (2006.01); **H05K 1/18** (2006.01); **H05K 3/46** (2006.01); **H01L 23/64** (2006.01); **H05K 1/03** (2006.01); **H05K 1/16** (2006.01)

CPC (source: EP US)

**H01L 23/13** (2013.01 - EP US); **H01L 23/15** (2013.01 - EP US); **H01L 23/49822** (2013.01 - EP US); **H05K 1/183** (2013.01 - EP US); **H05K 3/4697** (2013.01 - EP US); **H01L 23/642** (2013.01 - EP US); **H01L 23/645** (2013.01 - EP US); **H01L 2924/0002** (2013.01 - EP US); **H01L 2924/09701** (2013.01 - EP US); **H01L 2924/15153** (2013.01 - EP US); **H01L 2924/1517** (2013.01 - EP US); **H01L 2924/3011** (2013.01 - EP US); **H05K 1/0306** (2013.01 - EP US); **H05K 1/162** (2013.01 - EP US); **H05K 1/165** (2013.01 - EP US); **H05K 3/4611** (2013.01 - EP US); **H05K 3/4629** (2013.01 - EP US); **H05K 2203/063** (2013.01 - EP US); **Y10T 29/4943** (2015.01 - EP US); **Y10T 29/49126** (2015.01 - EP US); **Y10T 29/49128** (2015.01 - EP US); **Y10T 29/49155** (2015.01 - EP US); **Y10T 29/49833** (2015.01 - EP US); **Y10T 428/252** (2015.01 - EP US)

Citation (search report)

See references of WO 03065446A1

Cited by

US9888573B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR

DOCDB simple family (publication)

**US 2004089472 A1 20040513; US 7155816 B2 20070102;** CN 100390972 C 20080528; CN 1625806 A 20050608; EP 1471573 A1 20041027; JP 2003229669 A 20030815; WO 03065446 A1 20030807

DOCDB simple family (application)

**US 35497203 A 20030131;** CN 03802982 A 20030131; EP 03734905 A 20030131; JP 0301019 W 20030131; JP 2002025632 A 20020201